

What is claimed is:

1. A system for automatically adjusting a fastener of a pivot joint between first and second parts of an assembly, comprising:
  - a first fixture configured to engage the first part;
  - a second fixture configured to engage and move the second part relative to the first part about the pivot joint;
  - a driver configured to adjust the fastener to provide a desired resistance to relative movement between the first and second parts;
  - a position encoder connected to the first and second fixtures to generate a position signal indicative of the position of the second part relative to the first part;
  - a torque transducer connected to the first and second fixtures to generate a torque signal indicative of the resistance to relative movement between the first and second parts;
  - a controller having inputs operatively connected to the position encoder and to the torque transducer and an output operatively connected to the driver, the controller being responsive to the position signal and to the torque signal, the controller controlling the driver.
2. The system of claim 1 and further including a drive encoder connected to the driver to generate a signal indicative of the angular rotation of the driver.
3. The system of claim 2 in which the controller has an input operatively connected to the drive encoder.
4. The system of claim 1 wherein the driver is driven by a drive servo motor.
5. The system of claim 4 wherein the controller has an output operatively connected to the drive servo motor.

6. The system of claim 1 wherein the second fixture is moved by a servo motor.
7. The system of claim 6 wherein the controller has an output operatively connected to the servo motor.
8. The system of claim 1 and further including a home position switch connected to the second fixture.
9. A system for automatically adjusting a fastener screw of a pivot joint between first and second parts of a pair of scissors, each part including a respective blade and handle, the system comprising:
  - a first fixture configured to engage the handle of the first part of the pair of scissors;
  - a second fixture configured to engage and move the handle of the second part of the pair of scissors relative to the first part about the pivot joint;
  - a driver configured to adjust the fastener screw to provide a desired resistance to relative movement between the first and second parts;
  - a position encoder connected to the first and second fixtures to generate a position signal indicative of the position of the second part relative to the first part;
  - a torque transducer connected to the first and second fixtures to generate a torque signal indicative of the resistance to relative movement between the first and second parts;
  - a controller having inputs operatively connected to the position encoder and to the torque transducer and an output operatively connected to the driver, the controller being responsive to the position signal and to the torque signal, the controller controlling the driver.
10. The system of claim 9, and further including a conveyor carrying the pair of scissors and a pick-and-place mechanism for retrieving the pair of scissors from the conveyor and placing them in the first and second fixtures.

11. A method for automatically adjusting a fastener of a pivot joint between first and second parts of an assembly, comprising the steps of:

moving the second part relative to the first part about the pivot joint while monitoring the relative angular displacement of the parts;

driving the fastener while monitoring the torque required to move the second part relative to the first part; and

adjusting the tightness of the fastener to achieve a monitored torque that is within predetermined limits.

12. The method of claim 11, wherein the torque is monitored at a predetermined angular displacement.

13. The method of claim 12, wherein the monitored torque is compared to predetermined limits and if the torque is too low the fastener is tightened.

14. The method of claim 12, wherein the monitored torque is compared to predetermined limits and if the torque is too high the fastener is loosened.

15. A method for automatically adjusting a fastener screw of a pivot joint between first and second parts of a pair of scissors, comprising the steps of:

moving the second part relative to the first part about the pivot joint while monitoring the relative angular displacement of the parts;

driving the fastener screw while monitoring the torque required to move the second part relative to the first part; and

adjusting the tightness of the fastener screw to achieve a monitored torque that is within predetermined limits.

16. The method of claim 15, and further including prior steps of:

providing a pair of scissors in a first location; and

retrieving the pair of scissors from the first location and placing them in another location.

17. The method of claim 16, wherein the first location is a conveyor.